

Appl. No. 09/676,620  
Amendment dated September 2, 2003  
Reply to Office Action dated May 1, 2003

### REMARKS

Applicants have received and reviewed a final Office Action mailed May 1, 2003. By way of response, Applicants have amended claims 1 and 19 and added claims 40-43. Claims 1, 6-16, 19-23, and 28-43 are pending. No new matter is presented. The amendments do not narrow the claims. Applicants submit the amended and newly presented claims are supported by the specification.

For the reasons given below, Applicants submit the amended and newly presented claims are in condition for allowance and notification to that effect is earnestly solicited.

### Petition for Extension of Time

It is noted that a one-month petition for extension of time is necessary to provide for the timeliness of the response. A request for such an extension is made extending the time for response from August 1, 2003 to September 1, 2003, which was a holiday, extending the time for response to Tuesday, September 2, 2003.

### Rejection of Claims Under § 103(a)

The Examiner maintained the rejection of the pending claims under 35 U.S.C. § 103(a) as obvious over the Andrews (5,569,461) and Kubara (5,208,257) references in view of the Kross (WO 00/13506) reference. Applicants respectfully traverse this rejection.

### Consisting Essentially of Heptanoic Acid

The presently pending independent claims recite "an antimicrobial component consisting essentially of heptanoic acid". The Examiner requested that Applicants describe on the record how the additional antimicrobial agents disclosed in the cited references would materially change the characteristics of the claimed invention.

Applicants respectfully direct the Examiner's attention to at least two portions of the present specification that describe the advantages of a composition with an antimicrobial component consisting essentially of heptanoic acid.

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First, at page 13, lines 8-11, the present specification describes that heptanoic acid has a preferred pKa, preferred water solubility, and is not irritating to tissues. The preferred pKa allows heptanoic acid to have antimicrobial activity at pH's above 3.5 keeping the pH above 3.5 reduces irritation of tissue. Advantageous water solubility means that heptanoic acid compositions do not require couplers to keep an effective amount of heptanoic acid in solution. Thus, heptanoic acid compositions can be simpler and less expensive than compositions requiring coupler. Although many antimicrobial agents irritate tissues such as skin, heptanoic acid advantageously does not. Thus, the composition can include effective antimicrobial concentrations of heptanoic acid without the worry of tissue irritation.

Second, Example 2 at pages 31-33 of the present specification presents experimental results establishing that a mere 15 seconds of exposure to an embodiment of the presently claimed heptanoic acid antimicrobial composition dramatically reduces populations of several microbes. An embodiment of the presently claimed antimicrobial compositions caused greater than 99.999% reduction (>6.6 log reduction) in each of eight bacteria after only 15 seconds exposure. As stated in the specification, this "percent reduction was unexpectedly high" (at page 33, line 12).

In fact, the percent reduction is higher and/or faster than observed with more complex antimicrobial compositions in the references cited in the rejection. The presently claimed invention achieved fast (15 sec) and effective (>6.6 log reduction) antimicrobial activity using a composition with an antimicrobial component consisting essentially of heptanoic acid. In contrast, the Andrews reference employs compositions using two or three antimicrobial agent to achieve only 3 to 5 log reductions in 30 or more seconds (column 5, Table 1, lines 45-63). (Also, please remember that the Andrews reference does not even mention heptanoic acid.) The Kabara reference employs two antimicrobial agents to achieve antimicrobial activity in 2-10 minutes (Example 3 at columns 11-13).

Material differences between the presently claimed compositions and the compositions disclosed in the references cited in the rejection include the unexpected speed and efficacy of the presently claimed compositions with heptanoic acid. The presently claimed invention achieves this speed and efficacy without the added antimicrobial agents employed in the cited references.

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### **Consisting Essentially of a Mixture of Propylene Glycol and Glycerin**

Claims 38 and 39 recite "the freezing point depressant component consists essentially of a mixture of propylene glycol and glycerin". The Examiner requested that Applicants describe on the record how the additional freezing point depressants disclosed in the cited references would materially change the characteristics of the invention of claims 38 and 39.

Applicants respectfully direct the Examiner's attention to portions of the specification that describe the advantages of the preferred freezing point depressant components. The preferred freezing depressant components can also function as an occlusive agent (at page 8, lines 8-18). The preferred freezing point depressant components can condition skin and provide protection against effects of frigid weather (at sentence bridging pages 11 and 12). For example, the freezing point depressant components can help prevent chapping, irritation, windburn, frostbite, and other such cold weather conditions (at page 12, lines 13-16). For example, the freezing point depressant components can act as emollient, moisturizer, and/or humectant (at page 20, lines 9-11). Further, the freezing depressant components can form a carrier for the composition and facilitate its application to the intended surface (page 10, lines 16-18).

Added components disclosed in the references cited in the rejection could reduce one or more of these advantages and change one or more characteristics of the claimed invention.

### **Conclusion**

Accordingly, based on the foregoing differences, it is submitted that the references cited in the rejection neither teach nor suggest the presently claimed compositions and methods, and withdrawal of this rejection is respectfully requested.

### **Claim Objection**

Applicants have amended claim 39 as suggested by the Examiner to correct the typographical error by deleting a duplicate word "wherein".

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Summary

In summary, each of claims 1, 6-16, 19-23, and 28-39 is in condition for allowance and notification to that effect is earnestly solicited.

The Examiner is invited to contact Applicants undersigned representative, at the telephone number listed below, if the Examiner believes that doing so will advance prosecution.

Respectfully submitted,  
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Date: Sept 2, 2003

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